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# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet 1 of 3

## Complete if Known

Application Number 10/032658  
Filing Date 11/8/2001  
First Named Inventor Graham, Laurie A.  
Group Art Unit 1652  
Examiner Name RAMIREZ, DELIA  
Attorney Docket Number 016252-002110US

10/032658  
11/08/01



## U.S. PATENT DOCUMENTS

Examiner Initials *	Cite No. <sup>1</sup>	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code <sup>2</sup> (if known)			
DR	AA	5,118,792		Warren, et al.	06/02/92	
DR	AB	5,296,462		Thomashaw	03/22/94	
DR	AC	5,356,816		Thomashaw	10/18/94	
DR	AD	5,358,931		Rubinsky, et al.	10/25/94	
DR	AE	5,627,051		Duman	05/06/97	
DR	AF	5,633,451		Duman	05/27/97	
DR	AG	5,139,950		Klaenhammer et al.	08/18/92	
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## FOREIGN PATENT DOCUMENTS

Examiner Initials *	Cite No. <sup>1</sup>	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		Office <sup>3</sup>	Number <sup>4</sup>	Kind Code <sup>5</sup> (if known)				
DR	BA	PCT	WO 96/40973	A1	Univ. of Notre Dame Du Lac	12-19-1996	pp. 5, line 24; pp. 6, line 12, table 2, line 14; pp. 18, line 10; examples 1-3; SEQ ID NO:7	
	BB							
	BC							
	BD							

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# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet 2 of 3

Comple if Known

Application Number 10/032658  
Filing Date 11/8/01  
First Named Inventor Graham, Laurie A.  
Group Art Unit 1652  
Examiner Name RAMIREZ, DEICIA  
Attorney Docket Number 016252-002110US

## OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS

Examiner Initials *	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
<u>DR</u>	001	Chakrabarty, A., et al., "The effect of enhanced $\alpha$ -helicity on the activity of a winter flounder antifreeze polypeptide," <i>Eur. J. Biochem.</i> , <b>202</b> :1057-1065 (1991).	
	002	Chao, H., et al., "Structure-function relationship in the globular type III antifreeze protein: Identification of a cluster of surface residues required for binding to ice," <i>Protein Science</i> , <b>3</b> :1760-1769 (1994).	
	003	Davies, P. L., et al., "Biochemistry of fish antifreeze proteins," <i>FASEB J.</i> , <b>4</b> :2460-2468 (1990).	
	004	DeVries, A. L., "Antifreeze Peptides and Glycopeptides in Cold-Water Fishes," <i>Annu. Rev. Physiol.</i> , <b>45</b> :245-260 (1983).	
	005	Duman, J., et al., "The role of Hemolymph Proteins in the Cold Tolerance of Insects," <i>Ann. Rev. Physiol.</i> , <b>45</b> :261-270 (1983).	
	006	Fourney, R. M., et al., "Heterogeneity of antifreeze polypeptides from the Newfoundland winter flounder, <i>Pseudopleuronectes americanus</i> ," <i>Can. J. Zool.</i> , <b>62</b> :28-33 (1984).	
	007	Graham, L. A., et al., "Cloning and Baculovirus Expression of a Desiccation Stress Gene from the Beetle, <i>Tenebrio molitor</i> ," <i>Insect Biochem. Molec. Biol.</i> , <b>26</b> (2):127-133 (1996).	
	008	Graham, L. A., et al., "Hyperactive antifreeze protein from beetles," <i>Nature</i> , <b>388</b> :727-728 (1997).	
	009	Grimstone, A. V., et al., "Further Studies on the Rectal Complex of the Mealworm <i>Tenebrio Molitor</i> , L. (coleoptera, Tenebrionidae)," <i>Philos. Trans.</i> , <b>253</b> (B):343-382 (1968).	
	010	Hew, C. L., et al., "Presence of cystine-containing antifreeze proteins in the spruce budworm, <i>Choristoneura fumiferana</i> ," <i>Can. J. Zool.</i> , <b>61</b> :2324-2328 (1983).	
	011	Horwath, K. L., et al., "Tracking the profile of a specific antifreeze protein and its contribution to the thermal hysteresis activity in cold hardy insects," <i>Eur. J. Entomol.</i> , <b>93</b> :419-433 (1996).	
	012	Li, X., et al., "Structure of an Antifreeze Polypeptide and Its Precursor from the Ocean Pout, <i>Macrozoarces americanus</i> ," <i>J. Biol. Chem.</i> , <b>260</b> (24):12904-12902 (1985).	
	013	Ng, N. F., et al., "Structure of an Antifreeze Polypeptide Precursor from the Sea Raven, <i>Hemirhamphus americanus</i> ," <i>J. Biol. Chem.</i> , <b>261</b> (33):15690-15695 (1986).	
<u>DR</u>	014	Ochman, H., et al., "Genetic Applications of an Inverse Polymerase Chain Reaction," <i>Genetics</i> , <b>120</b> :621-523 (1988).	

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# **INFORMATION DISCLOSURE STATEMENT BY APPLICANT**

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Sheet **3** of **3**

## **Complete if Known**

Application Number	10/032 658
Filing Date	11/8/01
First Named Inventor	Graham, Laurie A.
Group Art Unit	1652
Examiner Name	RAMIREZ, DELIA
Attorney Docket Number	016252-002110US

## **OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS**

Examiner Initials *	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
DR	015	Paterson, J. L., et al., "Composition of a Protein Antifreeze from Larvae of the Beetle," <i>J. Exp. Zool.</i> , <b>210</b> (2):361-367 (1979).	
↑	016	Paterson, J. L., et al., "Purification and Composition of Protein Antifreezes with High Cysteine Contents from Larvae of the Beetle, <i>Tenebrio molitor</i> ," <i>J. Exp. Zool.</i> , <b>219</b> :381-384 (1982).	
	017	Rubin, G. M., et al., "Vectors for P element-mediated gene transfer in <i>Drosophila</i> ," <i>Nucl. Acids Res.</i> , <b>11</b> (18):6341-6351 (1983).	
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	019	Saiki, R. K., et al., "Enzymatic Amplification of $\beta$ -Globin Genomic Sequences and Restriction Site Analysis for Diagnosis of Sickle Cell Anemia," <i>Science</i> , <b>230</b> :1350-1354 (1985).	
	020	Schneppenheim, R., et al., "Isolation and Characterization of Freezing-Point Depressing Peptides from Larvae of <i>Tenebrio Molitor</i> ," <i>Comp. Biochem. Physiol.</i> , <b>67B</b> :561-568 (1980).	
	021	Sönnichsen, F.D., et al., "Comparative modeling of the three-dimensional structure of Type II antifreeze protein," <i>Protein Sci.</i> , <b>4</b> :460-471 (1995).	
	022	Tang, W., et al., "Studies of Structure-Function Relationship of Insect Antifreeze Proteins," Abstract, American Society for Biochemistry and Molecular Biology Conference, Washington, D.C. 547 (May 21-25, 1994).	
	023	Tomchaney, A. P., et al., "Purification, Composition, and Physical Properties of a Thermal Hysteresis 'Antifreeze' Protein from Larvae of the Beetle, <i>Tenebrio molitor</i> ," <i>Biochemistry</i> , <b>21</b> :716-721 (1982).	
↓	024	Wen, D., et al., "Structure-Function Relationships in an Antifreeze Polypeptide," <i>J. Biol. Chem.</i> , <b>267</b> (20):14102-14108 (1992).	
DR	025	Tschoop, J. F., et al., "Heterologous Gene Expression in Methylophilic Yeast," <i>Biotechnology</i> , <b>18</b> :308-322 (1991).	

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